MISSOURIENSIS

The Journal of the Missouri Native Plant Society

VOLUME 1, NUMBER 3 **WINTER, 1979**

RUDBECKIA

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OENOTHERA

MONPS GROWTH RATE GOOD

The second Board meeting of the Native Plant Society of Missouri was held on Saturday, December 1, at Babler State Park, with full Board attendance, and a gratifying number of others present. Although MONPS has not yet reached a stage of exponential growth, it was cheering to learn from our officers that we as of that date had 203 paid-up members, and the tidy sum of $1435 in the bank, a proportion of which was made up by generous gifts from several members, to whom very hearty thanks.

Much of the meeting time was given over to the controversial and very difficult subject of the policy that we must adopt about plant collecting. Although our organization is obviously based on the fundamental premise of preserving our native flora, the acquisition of voucher specimens to authenticate finds is so firmly bred into the scientist's concept of plant identification that it is still regularly pursued by learned institutions and their representatives. In setting up a policy for an organization such as ours, a cross between professional and amateur botanists, we must face the possibility of becoming an infertile hybrid, if our reporting is not scientifically accepted,...a pernicious weed in the field of conservation if we demand specimens to back every find reported. We have already run into this problem, on receipt of a letter condemning the list of county records printed in our last issue as unacceptable to a serious botanist. Although in this instance we neglected to add that most of the finds listed can be confirmed by herbarium specimens, we are left with the puzzling question: Should we not publish similar lists unless there are such specimens available? Board members were asked to submit opinions on this thorny subject to Jon Hawker, who will circulate them for Board consideration. Bob Mohlenbock, the most widely published member of our Board, feels that authors of floras are tending more and more to accept plant fragments and/or photographs as authentication of their sightings.

Further discussion concerned the possibility of wider regional representation on the Board, a solution for which, it was generally agreed, will be readily possible when the members elected for a single year will be rotated off the Board at our June meeting.

On the same general subject, it was agreed that Board meetings should be held in different parts of the state, where, hopefully, we can also establish contact with certain individuals or groups of botanically-oriented persons who will help collect and disseminate information about the Missouri flora. The March 1 Board meeting will be held in the southwestern part of the state. Persons wishing to attend can inquire of Board member Ken Olson for further particulars.

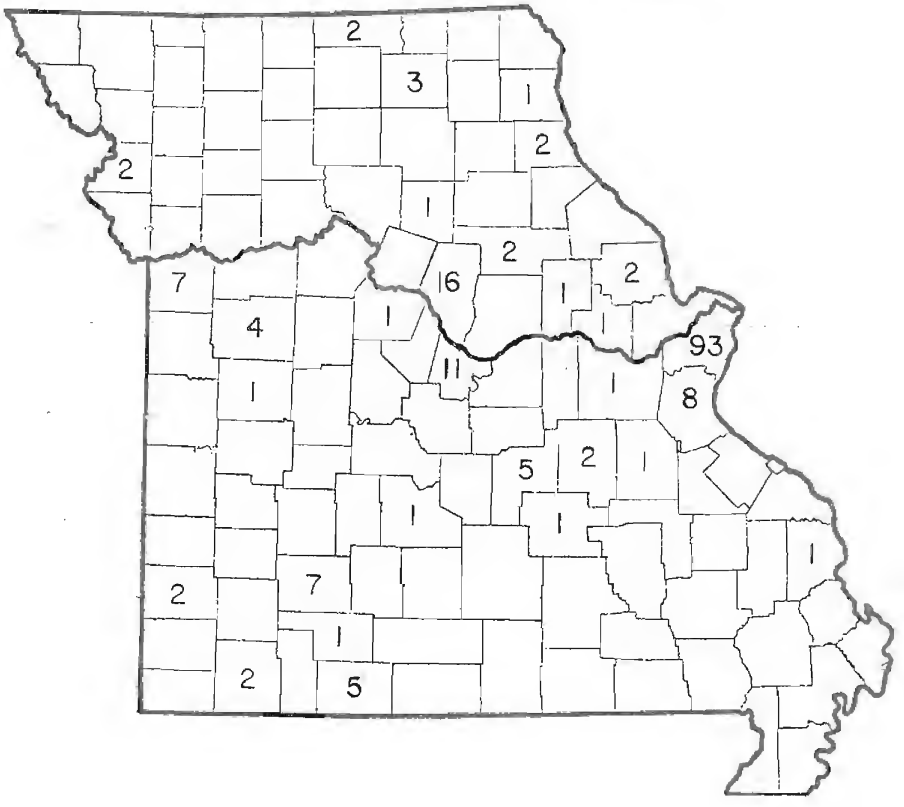
Finally, plans for future outings were discussed the importance of field trips in various portions of the state was emphasized as a needed PR exercise by Board member John Karel, who pointed out that MONPS is "not yet necessarily a household word". On the drawing board to remedy this are field trips to Hawn State Park, to be organized by Bob Mohlenbrock, S.I.U., Carbondale, Ill. 62901; to St. Francis State Park, to be organized by Edgar Denison, St. Louis 63122; to Taberville Prairie, to be organized by Ginny Klomps, and to Clifty Creek Natural Area, to be organized by Rick Thom. Both Klomps and Thom can be reached at the Mo. Dept. of Conserv., Box 180, Jeff. City, 65102. We have a confirmed date, June 7, only for the trip to Clifty Creek. For information as to other dates, as well as about places and times of meeting, what to bring, etc., contact the trip leaders.

After the meeting had adjourned, John Karel and Paul Nelson led a brief but interesting walk through a section of Babler Park that has been designated a Natural Area for its fine mature upland White Oak-Sugar Maple forest.

WHERE WE ARE NOW

We want to encourage all members of MONPS throughout the state to respond to an urgent call for help. You are our only contacts in your local area. As the county distribution map clearly shows, we desperately need to increase our membership and representation in the north, west, and southeast portions of the state. Please help.

We will be glad to send you extra copies of the first two issues of Missouriensis to distribute to friends at meetings or wherever. Contact Jim Wilson or Jon Hawker.



OUR FIRST LIFE MEMBER

About the time the last Missouriensis was in press, the Missouri Botanical Garden and the Missouri Department of Conservation were treating Missouri botanists to a visit with Dr. Julian Steyermark, author of the Flora of Missouri.

Among his other activities while in St. Louis, Dr. Steyermark visited the river bluffs north of Hannibal where a large group gathered for the dedication of Steyermark Woods, an 80-acre tract that harbors a number of rare plants. During his short stay, many other honors were bestowed on Dr. Steyermark, who responded with kind remarks about today's lively interest in our local flora.

We are proud and pleased to announce that he is now the first Honary Life Member of MONPS, and grateful for the role he has played in its creation. Below is a Board member's reminiscences of a longer visit with Dr. Steyermark, many years ago.

THREE MONTHS WITH DR. STEYERMARK

Robert H. Mohlenbrock

The return of Dr. Julian A. Steyermark to Missouri during the last week in September provided me with a chance to talk again to my esteemed friend and to reminisce about my first experiences with him over two decades ago.

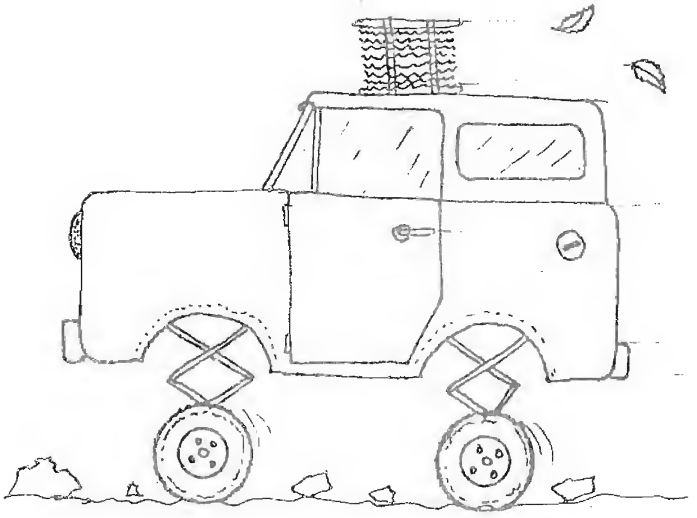
I had grown up on Steyermark's Spring Flora of Missouri, which I found very useful in adjacent southern Illinois. While I was doing research at the Missouri Botanical Garden from 1954-56, working on my Ph.D. at Washington University, I was constantly reminded of Dr. Steyermark because of his vast collections in the MBG herbarium, because of his prodigious writings, and because of the stories retold about him by Edgar Anderson, Bob Woodson, and others.

Following my Ph.D., I began my professional career in the Department of Botany at Southern Illinois University in January, 1957. It was my great fortune that during the three-month spring quarter in 1958, Julian Steyermark was offered a Visiting Professorship in the Department of Botany at SIU. The impact that those three months had on my professional career cannot be overstated.

Our department at that time was in cramped quarters. I already was sharing a 16 by 8 foot office with Professor John Voigt, the departmental ecologist. Since Dr. Voigt's interests and mine were more closely aligned to Dr. Steyermark's interests, the three of us someway were crowded into this small office.

Steyermark and I spent every day and partway into nearly every evening working side by side. He was putting the finishing touches on his Flora of Missouri and I, along with my wife, Beverly, was revising Jones' Flora of Illinois. Often Steyermark would quiz me on some specimen he would be working on or sketching. Many species previously unknown by me were quickly and eagerly learned.

While much of the three months was devoted to serious botany, Dr. Steyermark would take a little time off now and then to come to our home for dinner. On one occasion he took my wife and me to the local movie theater to see War and Peace. I recall the incident vividly because Julian insisted on picking us up in his vehicle, an International Scout built high to enable him to negotiate Missouri's back roads. The Scout was so high that I had to climb in awkwardly. My poor wife stood helplessly at the door until Dr. Steyermark boosted her up into her seat!!



STEYERMARKMOBILE (ca. 1958)

One of my most pleasant recollections was an overnight visit to Steyermark's estate near Barrington, Illinois, north of Chicago. Julian had talked so often about the wildflower preserve he had built that my wife and I were thrilled to be invited to see it. We arrived early one afternoon. Julian guided us over about half of the property, pointing out with great enthusiasm the many species transplanted from the Ozarks. That evening we talked of plants, browsed through his extensive library, and listened to classical music.

We awoke the next morning to the delightful smell of bacon frying. Cora, Julian's wife, had prepared a feast, including the most delicious baked eggs my wife and I had ever eaten. The rest of the morning was spent walking over the remainder of the grounds before we all began the long drive back to Carbondale.

From mid-March to late April, 1958, Steyermark enthralled me with stories of his experiences. I was particularly excited about his re-discovery in 1957 of the very rare and little known Geocarpon minimum. This species had been found originally in Jasper County in 1913. This remained the only known station until Steyermark had rediscovered it in St. Clair County in 1957. My nagging at Dr. Steyermark to show me Geocarpon paid off. He agreed to take Dr. Voigt and me with him on a three-day excursion to see if we could discover additional stations for this dwarf rarity.

We left Carbondale on May 2, heading in the general direction of Springfield, Missouri. Leaving Cape Girardeau, we stopped briefly at the Bollinger Mill and then headed into the Ozarks. Up and down lettered and double-lettered county highways, past Shortleaf Pine woods, over clear, rock-bottomed streams we went, Steyermark pointing out species right and left. We made frequent stops, usually after an enthusiastic comment such as "Wait! There's a county record." I tried to absorb all the species as fast as I could, but Steyermark never relented. We screeched to a halt in Bollinger County, pulling off the road next to a steep, wooded, cherty slope. Julian asked if any of us had ever seen the little sedge, Scirpus verecundus. We replied in the negative, and off we went down the slope. Scirpus verecundus was not known from Bollinger County, but Julian was optimistic, saying that this slope looked just right for the little plant. In what could not have been more than five minutes, the woods echoed Steyermark's voice: "Whee! Over here. I've found it!" Scrambling over the treacherous chert, Dr. Voigt and I made it to the kneeling botanist who crouched over a four-inch tall tuft of green. I had seen my first Scirpus verecundus, and I was never to forget the habitat. Some fifteen years later, while exploring in Alexander County, Illinois, I came upon a similar steep, cherty slope. Recalling my earlier experience, I began to comb the woods and was rewarded by making the first discovery of Scirpus verecundus in Illinois.

By late afternoon we had reached Dallas County and were heading along Route 43 when Steyermark observed that the little chickweed on the road shoulder looked peculiar. On closer look, the plant indeed was different from anything we had ever seen. We learned later that the plant was Cerastium pumilum, a new record for Missouri.

We persisted beyond supper and into the duskiness of twilight. By dark, we were still on the road. I began to understand how Steyermark had been able to canvas every square foot of Missouri in thirty years--he never stopped to rest. I saw my first Ozark tarantula, scurrying across the road in the glow of our headlights. Finally we stopped for camp at about 9:30, reeling from the vast amount of information imparted by Dr. Steyermark.

We arose early on May 3 in anticipation of seeing Geocarpon. We had entered Polk County near Graydon Springs when Dr. Steyermark announced that we had arrived at a likely looking spot for Geocarpon. It was a glade on a west-facing sandstone escarpment next to Coates Branch, a tributary of the Little Sac River. We quickly found Isoetes butleri, Talinum parviflorum, and Arenaria patula, species known to be associated with Geocarpon at its other stations. Then, in a small, moist depression on the glade, we spotted it--dwarf, two inches tall, semi-succulent. At this stage, the plants were wine-purple in color. Once we knew what we were looking for, we began to spot another, and another, and yet another. Our discovery marked the third known location for Geocarpon in the world!! On the same glade, I also saw for the first time in my life Selenia aurea, Saxifraga texana, and Collinsia violacea.

Our spirits were buoyed by these discoveries. We hastened into Greene County and stopped at a likely looking sandstone glade near Pearl. We noticed Selenia aurea and Saxifraga texana from a distance and, more closely, Isoetes butleri. It surely would be just a matter of time. Sure enough, the wine-purple plants of Geocarpon minimum became evident after we had wandered into an adjacent glade. I don't recall how many specimens there were, but I would think there were dozens of them.

As we were hopping over the glade in our crouched positions, we happened upon a small plant previously unknown from Missouri. It was Scleranthus annuus, the Awlwort of the Caryophyllaceae.

With our success in finding Geocarpon, we headed into Dade and Cedar counties, stopping at several glades. Much to our consternation, we couldn't find Geocarpon at any of them. By late afternoon, we started back to the east where we had planned to camp at beautiful Alley Springs. Darkness caught us again while still on the rolling hills of the Ozarks. The night scarcely slowed up Dr. Steyermark as he continued to name roadside plants as our headlights struck them. "Andropogon elliottii," he shouted once, as we whizzed by a clump of two-foot tall grasses. Most people have trouble identifying this species in the daylight with the specimen in front of them, but Steyermark's identification was right on the money.

We got to Alley Springs at last. The long eventful day was conducive to good sleeping, and I scarcely noted that I was spending the first night of my life atop a hard, slatted picnic table!!.

Next morning we were soon on the road, finding more goodies. About two miles west of Piedmont along Highway 34, we found Cerastium brachypetalum, the third collection of it in Missouri. Near Cape Girardeau, we discovered our second station for Cerastium pumilum. Since the afternoon was young, Dr. Steyermark expressed a desire to go into Perry County to a deep ravine he had had his eyes on for years. The ravine was new collecting ground for Julian, and he took his plant

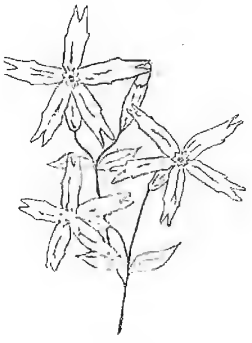
press with him. He is the only botanist I have every been in the field within the United States who carries his press with him. Most of us use plastic bags or tin cans (vascula), and our semi-wilted specimens are proof of it. Steyermark had custom-made his own press with a hinged back that opened like a giant book. Our visit to the ravine netted nearly a dozen records for Perry County.

We got back to Carbondale early in the evening, finishing a three-day, red-letter trip I will never forget.

FIRE PINK AND WILD PINK HYBRID

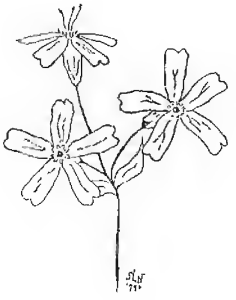
Keith E. Evans, Charles W. Putnam, and Shanna L. Nesby

On May 31, 1979 a Silene virginica x Silene caroliniana var. wherryi hybrid was located in Crawford County, one-fourth mile north of the Dent County line. The specimen was found in close proximity to both parent species and was intermediate in stature, leaf and petal shape (see below), and color. The habitat consisted of a gravelly intermittent stream bed with an overstory cover of approximately 50 percent. The overstory was primarily oak trees.



Fire Pink
Silene virginica

Wild Pink
S. caroliniana



Hybrid
S. virginica x caroliniana

We located only one other report of a Fire Pink x Wild Pink hybrid. Steyermark reported two phenotypes (both apparently different from ours) growing in close proximity to both parent species in Shannon County, three miles south of the Dent County line.

We photographed the parent species and the hybrid with 35 mm color transparency film. Prints or slide duplicates could be made available.

AN UNUSUAL MISSOURI PLANT

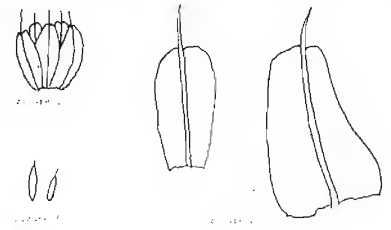
Dr. L. J. Gier
Carthage, Mo.

How many things of beauty do we fail to see? There are many we miss because of size. A simple pocket magnifier will help remedy this problem. We may be unaware of their existence because of their unusual habitat or their habit of growth. Among this group are many that are beautiful as well as unusual although they may be common. Some of these are in the moss genus Tortula. Many species of this genus and of other genera as well, are restricted in habitat to the bark of trees, especially along the crevices in the bark of deciduous trees. Why should they be restricted to such a habitat?

One of these, Tortula propagulosa Sharp, is such a moss. Dr. Sharp described it from Knoxville, Tenn. in 1933. Grout (1939, p. 238) says, "Growing in soot-filled crevices of bark of elm; still known only from several parts of Knoxville, Tenn." Dr. Sharp said in a meeting years ago that it is found only in the neighborhood of a factory which is using coal and only on the lower part of a tree trunk, especially just below the juncture of two major branches. We may assume from this that there is something in the coal soot which the plant needs or that the soot reacts with the bark or some other substance which is also lodged on the bark.

A plant with such a restricted habitat makes one wonder (1) how it came into existence at the time when coal soot became available or how it survived if it appeared before the coal soot, and also (2) what will become of it if we succeed in clearing the environment of the soot.

This species has never been found in Missouri and will probably never be found here but it has a close relative, T. pagorum (Milde) DeNot, which was first described by Milde in Switzerland in 1862. It has been found in the U.S. "on the trunks of living trees, very rarely on rocks, Ohio, West Virginia, and Maryland, south to Georgia, west to Oklahoma, Texas, Arizona, and California" (Grout, 1939, p. 239). It has been found in widely spread parts of Missouri. Gier (1955) listed it for Clay, Franklin, St. Louis, and Taney Counties and since then I have found it several times in Jasper County. Redfearn (1971) says it is "common throughout the Interior Highlands [of Missouri, Arkansas, and Oklahoma], mainly on trees but occasionally on vertical calcareous and sandstone rocks." I am of the opinion that it will be found throughout Missouri south of the Missouri River and perhaps in other counties of North Missouri.



Tortula pagorum is a beautiful sight just after a shower of rain, especially in spring or early summer and again in autumn if the summer has not been too dry. When the plants are dry, the leaves are curled up into a tiny ball, about 2 mm in diameter, with the spines at tip of leaves protruding, otherwise looking like a tiny Brussels Sprout (see fig. 1). The leaves are a very dark green, sometimes with a reddish border on the margin. When the plants are wet, the leaves are spread out in a multiple rosette with the glass-like spine protruding from the tip of each leaf (see fig. 2), extending to about 5 mm (1/5 inch) across the whole plant. When the leaves are wet and spread out, you may be able to see a mass of tiny green leaf-like "propagula" (asexual reproductive buds) at the bases of the leaves and in the center of the rosette (see fig. 3). With a low-power microscope, you will be able to see much more of their beauty. Happy hunting.

References:

Grout, A. J. 1939. Moss Flora of North America vol. 1, part 4, Newfane, Vt.

Gier, L. J. 1955 "Missouri Bryophytes" Kansas Academy of Science Transactions 57:29-49.

Redfearn, Paul L., Jr. 1971. Mosses of the Interior Highlands of North America published by Dept. of Life Science, SWMU, Springfield, Mo.

BOTANICAL GATEWAY

Although all Missourians are aware of the symbolism represented by the Arch, on the waterfront in St. Louis, it may come as a surprise to some that a number of botanical explorers began their expeditions close to where the Arch now stands, and that the Dr. Engelmann whose name we so often associate with that of Henry Shaw in the history of the Missouri Botanical Garden acted as a sort of "conduit" for their finds.

We quote the following from a fascinating book, A Species of Eternity, with permission of the author, Joseph Kastner, who describes Engelmann as "one of the most adventurous of a new circle of American naturalists...the botanical frontiersmen of their time."

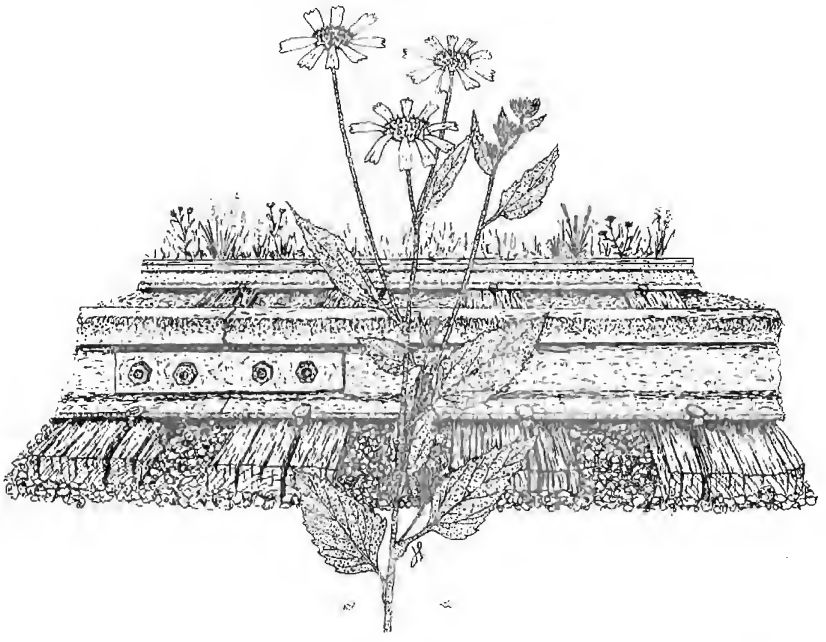
> George Engelmann was the center of their activity, serving as a kind of branch office for Torrey and Gray. He had come to the United States in 1832 to invest some money for a wealthy uncle. But after landing in Philadelphia, where he spent some time with Nuttall, he gave more attention to botany than to business. Settling finally in St. Louis as a physician, he soon was the busiest doctor in that thriving river port. Between patients, he would leave his office and duck into the next room where he kept his ever-enlarging herbarium. His own field-work introduced many unknown plants and his researches into grapevines led to the discovery that American vines were immune to phylloxera, the blight that later destroyed the vineyards of France and caused them to be replaced with American stock.
>
> It was as a conduit rather than a collector that Engelmann became most important to American natural history. In 1840 he paid a visit to Gray. From their talk grew a most satisfying botanical arrangement: Engelmann would find collectors to supply plants and Gray would find markets for them. Almost every naturalist travelling west came through St. Louis and called on Dr. Engelmann for help and advice on routes.
>
> If they were heading out, Engelmann might give them advances against specimens to be delivered later. If they were back from the field, he would give them down payments on plants which he would transship, more often than not, to Gray or to Torrey. With their own knowledge and access to libraries, the easterners could identify and evaluate what Engelmann sent. With their wide contacts in America and abroad, they could find ready buyers. Knowing who wanted to buy what, they could tell Engelmann where his field collectors should go and what to look for. And they could publish readily, providing what every self-respecting naturalist wanted as much as anything; credit for his work.

(Ed.'s note: Originally published by Alfred A. Knopf, A Species of Eternity is now available as a Dutton Paperback.)

HITCH-HIKER FROM THE WEST

Warren L. Wagner
Department of Biology
Washington University, St. Louis

Recently I observed Verbesina encelioides (Cav.) Benth. & Hook. perhaps better known as Crown-beard or Cow Pen Daisy, growing on a vacant lot near the bus station in downtown St. Louis. It came as a surprise to me because I knew this Crown-beard as a weedy annual species native to western North America and not a plant I would expect to see here in the Midwest. As we were driving to the bus station, Erna Eisendrath, author of Missouri Wildflowers of the St. Louis Area, informed me that Verbesina encelioides was indeed common in the downtown area in disturbed habitats. She then proceeded to explain how this aggressive herb had expanded its numbers in St. Louis and was no longer restricted to the downtown area. She has recently discovered a population just east of Washington University and north of Lindell Blvd., and another along Kingshighway. Moreover, she indicated that each population was small and therefore probably recently established. With this information, I set forth to find out more about this disjunct occurrence of Verbesina encelioides in St. Louis.



My first consultations were with Steyermark's Flora of Missouri and the herbarium collection at the Missouri Botanical Garden. Steyermark referred all of the plants collected in Missouri (Atchison, Jackson, St. Louis, Ripley, Dunklin, and Scott counties) to V.e.var. exauriculata Robins. & Greenm. which occurs naturally from Kansas to Montana and south to western Texas, Mexico, and California. He states that it is naturalized in Missouri and inhabits roadsides and railroad rights-of-way. Upon close scrutiny of the herbarium collections which included many cited by Steyermark, I discovered that both varities of Verbesina encelioides were present in Missouri. The plants from Jackson county, near Kansas City, (except for one collection which states that it was introduced) are var. exauriculata and are likely to be extensions from adjacent Kansas. The collections from Dunklin and St. Louis counties are not var. exauriculata but the more eastern var. encelioides (petioles with ovate auricles and involucre bracts longer than the disk flowers) which ranges from central Oklahoma to the lowlands of central Mexico. With the identity of the populations growing in Missouri established, a clearer hypothesis of the original colonization of this species in St. Louis can be made.

The St. Louis collections have all been made in the downtown area (except those reported above by Eisendrath) and were taken primarily from railroad yards. The oldest collections are from East St. Louis, made in August of 1897 by Henry Eggert. He collected a series of plants in and around the National Stockyards, suggesting colonization by riding the rails over 80 years ago. Probably seeds of Verbesina were attached to a cow hide or hoof or, perhaps, in some of their stomachs. This species of crown-beard is an active colonizer of disturbed ground in the West and is thus frequently abundant in grazing land, earning it the sometimes used name Cow Pen Daisy. It is never preferred food, but is eaten in times of food scarcity in spite of the presence in leaves and flowering heads of toxic compounds. Thus, a hypothesis of railroad transport from Texas or Oklahoma (the natural range of var. encelioides) in or on cattle to the St. Louis National Stockyards where it became firmly established. In the 80 odd years since its introduction, many new populations have become established in nearby disturbed sites of the city.

SIGHTINGS FROM THE SOUTH

Hazel Ayers

Gatewood, MO 63942

John Wylie, Natural History officer of the MDC, has kindly forwarded a letter addressed to him by the author named above. Mrs. Ayers included with her listings exact locations of the plants she reports having seen, but, in line with policy your Editor presumes will eventually be adopted by MONPS, these are not published herewith. Herewith, the body of Mrs. Ayers' letter:

> "I love our birds and wildflowers. For 20 years I've lived in the Ozarks and I've walked miles and miles year after year and almost every week during spring, summer and fall. I know where everything grows here in the Ponder community and several other areas that are especially beautiful--or they were beautiful!
>
> The last four years I've seen hundreds of acres right here in our community sprayed by farmers, ranchers, the highway department, the utility company and so called conservationists .....
>
> Songbirds and wildflowers are out. Progress, progress, and what a dreary place it leaves behind.
>
> I guess future generations can't miss what they've never seen."

The following is excerpted from Mrs. Ayers' list: "Vaccinium vacillans: all plants have been destroyed by spraying." Concerning the remainder of her listed sightings, Wylie states: "Mrs. Ayers is a keen observer;...if the identification of her sight reports is correct, many of them represent range extensions."

All of the plants listed below were seen in Ripley County except Phlox maculata var. pyramidalis, which was sighted in Oregon County:

> Pychanthemum muticum, Liatris mucronata, Viola pallens, Sabatia brachiata, Berberis canadensis, Hypericum tubulosum, Yucca glauca var. mollis, Matelea obliqua, Trillium pusillum var. ozarkanum, Monarda clinopodia.

Even among these, there is doubt that some of the plants will reappear; Mrs. Ayers notes that after spraying she saw only 5 or 6 plants of the Marsh Pink (Sabatia brachiata); one vine of the Climbing Milkweed (Matelea obliqua) survived, none of the Horsemint (Monarda clinopodia), "but some may come back".

UPCOMING INVENTORY

Richard H. Thom
Natural Areas Coordinator
Missouri Department of Conservation

The Natural History Section of the Department of Conservation will soon begin a natural areas and endangered species inventory of Franklin, Jefferson, and St. Louis Counties. The inventory, endorsed by the interagency Missouri Natural Areas Committee, will begin in February 1980, and continue through February of 1981. A federal grant from the Land and Water Conservation fund, matched by the Department, has made the project possible. We will be systematically searching for undisturbed natural communities (forests, marches, glades, etc.), special habitats (unusual plant or animal communities, relict plant communities, heron rookeries, snake denning areas, important eagle overwintering areas, springs, caves, etc.), endangered species sites for both plants and animals, and outstanding examples of natural geological features. The methods we will use to find these areas will include collecting information from individuals and organizations, reviewing previous studies and the literature, systematically searching aerial photographs and topographic maps for potential areas, and intensive field survey work.

Don Kurz will be joining the Natural History Section team to direct and coordinate the inventory project. Don is well qualified for this position, holding Masters degrees in both zoology and botany from Southern Illinois University. He has done extensive natural area inventory work in Illinois and Indiana. (Don is also a MONPS member.) People from the Department of Conservation and Department of Natural Resources will assist Don in the project which will be coordinated with both the MDC and DNR natural areas programs. We are also asking for the help of knowledgeable people both in recommending sites to us for evaluation and possibly in helping us with some of the field work.

Our plans are not yet firm, but we are considering the use of qualified volunteers to help us on the endangered species and special habitat searches. For example, we might supply a person or group with a map and locations of several areas with potential for a certain endangered plant to be field checked.

I wanted to inform the Missouri Native Plant Society of this project early, both to let you know of our activities and to gauge the interest of members in assisting us with this project. It could be an opportunity for some exciting discoveries while advancing our knowledge of the natural features of these counties. Please send me recommendations on sites to check and let me know if you are interested in assisting with the project. If you want to help us in the field, please give me an estimate of the time you can commit and your area of expertise.

Site information on recommended areas should be as complete as possible with an exact location, preferably on a map, and a statement of the significance of the area or feature.

We are excited about the upcoming inventory of these special features in Franklin, Jefferson, and St. Louis Counties. I will keep you informed through Missouriensis of the progress of our inventory effort.

AND THEN THERE WERE NONE...

On Monday, November 12, the Department of Interior's Fish and Wildlife Service was forced to drop the complete list of more than 1,700 species proposed for endangered status. Derived from the Smithsonian Institution's review of plants and animals considered to be in trouble which listed over 3,000 potentially threatened species, the Service's list originally included 1,821 taxa. Twelve hundred of Smithsonian's species were eliminated because a 1978 amendment to the Endangered Species Act required Interior to examine mainly those species for which adequate data already existed.

The 1978 amendment also allowed only two years for any action on a proposed species. With only one botanist on the staff (two more were eventually hired), the task was awesome. To gather data, notify authorities, hold hearings, and draft proposals required some 300 person-days for each species. As a result, only about one hundred species actually made the transition from proposed to endangered status. Further complicating the procedure was the frequent necessity of listing critical habitat and a new rule requiring an economic impact statement.

When the Fish and Wildlife Service's reauthorization bill came up in Congress this Fall, many individuals and organizations like MONPS across the nation tried to get an amendment attached to that bill to allow an extension of the deadline. These efforts failed. All of the 1,700 species never acted upon will now have to be resubmitted.

PLANTED ANOTHER ONE...

CATECHISM COLUMN

With a membership of knowledgeable botanists from all areas of our state, it is beginning to look as if we can use their expertise in a Question-Answer column, to be published in each issue. Herewith, the first requests for help. PLEASE send us your answers as well as further botanically-oriented questions that may have been troubling you. We don't promise to print all such questions or a flood of answers, but we would like to make this a permanent (and hopefully, helpful) department of Missouriensis.

BIRDERS BOW TO BRILLIANT FALL FOLIAGE

Warren Lammert
St. Louis, MO 63124

Late in the Fall, a group from the Missouri Chapter of the Nature Conservancy enjoyed a field trip to the Ted Shanks Refuge, 10 miles south of Hannibal, and to the area near Perry where the Cannon Dam is being built. In most of the country through which we drove, the autumn color was drab, highlighted only here and there with a vivid spot. BUT, in the area 10 miles south of Hannibal, the river bluffs along highway 79 were suddenly ablaze with clear yellow, bright orange and red, dull red, yellow-green, blood orange mixed with green ... and on and on. Why?

We knew the trees as of wide distribution in the state, but why, in this small area, and here only, were their colors so vivid and in such profusion as to rival anything any of us had seen, even in New England? We were so delighted and intrigued that we spent most of two days enjoying and photographing the spectacle, but we wonder if anyone in the Native Plant Society can explain why the display was so much more lush and vivid than any we had seen before or elsewhere.

FROM ANOTHER BIRDER

Mary Wiese

It was a great surprise to me to read in Robert Mohlenbrock's article about Grand Tower Island that Alliaria officinalis was unknown in Missouri until discovered on the island. I feel quite sure that I had found the Garlic Mustard blooming on May 3, 1978, while birding in an overgrown field back of our house in mid-Kirkwood. The single plant I saw had the unmistakable odor of garlic and seemed to be thriving at the back of a tumbledown house that faces on Kirkwood Road along with the usual weedy trees and Poison Ivy. This year, I missed it as I was out of town at its blooming time, but would certainly not have thought it a rare find anyhow, until I read Dr. Mohlenbrock's article some months later. Has anyone else found the plant lurking unrecognized in the suburbs?

AND MORE FROM POSSUM TROT...

Leonard Hall
Caledonia, MO 63631

We liked your note on Habenaria peramoena in Missouriensis , and here is a minor problem. We have a tiny prairie with big and little bluestem, Indiangrass and forbs. The seed came from nephew Pete Schramm who heads biology at Knox in Galesburg and is a great prairie man.

Most of the forbs are natives, others probably came in with his Iowa seed. Thus, they include Prairie Dock, Rosin-weed, Cup Plant, Ashy Sunflower, and a goldenrod we haven't identified. Then, last summer we found a new one -- a white gentian (closed or pleated), striped inside with green. There were two plants with some ten blossoms, and they came back this year. The closest I can come to it is Striped Gentian or Sampson's Snakeroot -- Gentiana villosa. But it is not in Steyermark though we're in the range, and it certainly is a "first" for us. We have excellent photos and would like help with sure identification.

Incidentally, it often seems to me that Iron County had not been too well covered at the time of Flora of Missouri. I've filled in black dots on many of Julian's maps. And wish I was an expert!!!

HOW RARE IS IT?

Edgar Denison
St. Louis, MO 63122

To my knowledge, the St. Louis contingent of wildflower students knows of only one locality where Gerardia auriculata Michx. can be found. This is a waste area within the Gravois Creek watershed, a place that obviously has been thoroughly disturbed at some time, as evidenced by deep, wide furrows, the reason for which has eluded our curiosity. According to Gleason's The New Britton and Brown Illustrated Flora of the Northeastern United States and Adjacent Canada, 1974, the preferable name for the species, today, is Tomanthera auriculata (Michx.) Raf. [The synonymy cited in Gleason is incorrect in attributing the older generic classification to Gray, correct in citing a third name for the plant, Otophylla auriculata (Michx.) Small. I continue to refer the plant to the genus Gerardia as it is so found in Steyermark's Flora of Missouri.]

By whatever name, the plant today faces fierce competition, chiefly from Dipsacus sylvestris, the naturalized Teasel that seeds profusely, and, in the area where our Gerardia grows, forms 1st year rosettes that virtually deny existence to other plants. Despite this, however, on September 4, 1979, we saw 18 of the Gerardias in flower, all but four of them no more than 30 cm tall, although the other four reached about twice this height.

Gerardia auriculata Michx. grows in close company with G. tenuifolia Vahl. but the two look very different. G. auriculata produces a single, upright stalk with little, if any, branching and produces larger, pinker flowers which drop mid-day, strewing the ground with their colorful perianths. G. tenuifolia produces a sprawling mass of much smaller, blue flowers that are not usually so soon deciduous. The pubescence also differs. The basal lobing of especially the upper leaves of G. auriculata further distinguishes the two and is used to do so in Gleason's key to the genera of Scrophulariaceae.

It is to this lobing that the epithet, "auriculata" refers, describing the lobes as "ears". However, the leaves of those members of the species that we found last September were very irregularly so "eared", sometimes only on one side, sometimes not at all. Furthermore, Gleason describes the lobing as particularly characteristic of the upper leaves, while we found it more often on the lower.

We would like very much to check our observations with those of others. If you know of further localities in which Steyermark's Gerardia auriculata Michx. can still be found, please so inform me.

NOW THAT THE LEAVES ARE DOWN...

ATTENTION winter botany fans! A Key to Missouri Trees In Winter is being published by the Department of Conservation and will be available in late January at a cost of $1.00. Authored by Jerry Cliburn and Ginny Klomps, the key includes 110 native Missouri trees and several widely planted, introduced species. Trees are separated on the basis of bud and twig characteristics. A twig illustration, and in some cases fruit and leaf illustrations as well, is included for each tree. A distribution map is also included for every native species.

Copies can be obtained by writing to:

Missouri Conservation Department
P.O. Box 180
Jefferson City, Missouri 65102

Please make checks payable to the Missouri Department of Conservation.

BY THE WAY

The Missouri Native Plant Society was officially recognized by the state of Missouri as a General Not For Profit Corporation on November 9th, 1979. We may now refer to ourselves as MONPS Inc. We have yet to receive our tax exempt status from the Internal Revenue Service.

WE GOOFED

Another new department, but unlike the Catechism Column we are also introducing in this issue of Missouriensis, we do not solicit entries for this one, and we hope that it will not appear regularly in future issues. This time, alas, we have three good reasons for printing it:

1. "Fremont's feather flower", that turned up towards the bottom of pg. 9 in our last issue, is INDEED narrowly endemic; so narrow indeed is this endemism that it appears only there, and we have reason to believe that the plant is already extinct. "Fremont's leather flower" however, is presumably still alive and well on Victoria Glade and elsewhere, and it won't be too long before we'll have the opportunity to substantiate this statement by welcoming its annual return.

2. In our last issue we printed a report of a viewing of Cypripedium reginae in bloom; in conforming to what we believe to be the principles of the Native Plant Society, we did not divulge specific information about the area in which it was seen. Despite this, however, we have been criticized for not crediting this find to Mr. Mervin Wallace of Jefferson City; unfortunately, we did not realize that a principle of priority was involved here. Since, however, we have been called to task, we do apologize sincerely and profusely to Mr. Wallace.

3. Perhaps the most serious of our recent "goofs" was that we neglected to mention that the dots we urged you to dash to place in county records in your copies of the Flora of Missouri are all, with a very few exceptions, substantiated by voucher specimens deposited by the author, Art Christ, in the herbarium at the Missouri Botanical Garden, or in his own herbarium.

MONPS

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The Missouri Native Plant Society

The Missouri Native Plant Society is a Not For Profit Corporation devoted to the preservation and conservation of the wild plants and vegetation of Missouri and to the study of the wild plants and vegetation of Missouri for the purpose of aiding in the scientific education of the public.

Missouriensis is the official publication of the Missouri Native Plant Society and is published quarterly. We are happy to publish any articles concerning the wild plants and vegetation of Missouri. Please submit typewritten manuscripts and ink illustrations or black and white photographs to the editor. Articles submitted for publication may be reviewed by an editorial board. We do not copyright any article in this journal.